**CLAIMS:** 

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1. A method of manufacturing a charge-coupled image sensor, wherein semiconductor regions are formed in a silicon slice so as to adjoin a surface thereof by implantation of ions of dopants and subsequent thermal treatments, wherein the surface of the silicon slice is provided with a gate dielectric comprising a layer of silicon oxide and a silicon nitride layer deposited thereon, and wherein a system of electrodes is formed on the gate dielectric, characterized in that the semiconductor regions are not formed in the silicon slice until after the gate dielectric has been provided on the surface of the silicon slice, the ions of the dopants being implanted through the gate dielectric.

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2. A method as claimed in claim 1, characterized in that the silicon nitride layer is deposited on the silicon oxide layer by means of a LPCVD (Low Pressure Chemical Vapor Deposition) process.

3. A method as claimed in claim 2, characterized in that the silicon nitride layer is deposited in a thickness of at least 50 nm.

